

APPENDIX I

OFFICIAL INTERAGENCY AGREEMENTS

The following agreements are included:

- *Memorandum of Agreement (MOA) between the Air Force Reserve Command (AFRC) and the National Oceanic and Atmospheric Administration (NOAA), dated October 12, 2000.*
- Letter of Agreement (LOA) between the AFRC, Federal Aviation Administration, and NOAA, dated February 16, 1996.
- Letter of Agreement (LOA) between the 403rd Wing and the NOAA Aircraft Operations Center, dated August 3, 1993.

The purpose of these agreements is to establish policies, principles, and procedures under which the FAA, AFRC, and the NOAA Aircraft Operations Center will provide aircraft weather reconnaissance in support of NOAA's requirements.

MEMORANDUM OF AGREEMENT

BETWEEN

THE UNITED STATES AIR FORCE RESERVE COMMAND

AND

THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

PURPOSE: The National Oceanic and Atmospheric Administration (NOAA), an agency of the Department of Commerce, does not have the capability to fully support all operational requirements in support of tropical cyclone and winter storm aerial reconnaissance. This memorandum of agreement establishes policies, principles, and procedures under which the Air Force Reserve Command (AFRC) will provide aircraft weather reconnaissance support to NOAA. NOAA and AFRC enters into this agreement pursuant to its authority under 15 U.S.C. 313.

1. REFERENCES:

- a. *National Hurricane Operations Plan (NHOP)*
- b. *National Winter Storms Operations Plan (NWSOP)*
- c. Department of Defense Appropriations Act, 2000

2. BACKGROUND: The Air Force Reserve Command (AFRC) maintains 10 WC-130s to meet the Department of Commerce (DOC) aircraft reconnaissance requirements. AFRC will conduct up to five (5) sorties per day in support of NHOP requirements and up to two (2) sorties per day in support of NWSOP requirements. The Department of Defense (DOD), through AFRC, will bear all costs directly attributed to providing aircraft weather reconnaissance support. Support will be limited to the number of AFRC congressionally funded aircraft flying hours per year.

- a. Total flying hours used to support the weather reconnaissance mission are set annually in the DOD Appropriations Act. The 53rd Weather Reconnaissance Squadron (53 WRS) manages the flying hour program.
- b. The operational area for AFRC weather reconnaissance includes the Atlantic Ocean, Gulf of Mexico, the Caribbean Sea, and the North Pacific Ocean east of the international date line, as outlined in the NHOP and the NWSOP.
- c. The 53 WRS will be capable of operating from two (2) deployed locations, as well as from home station, simultaneously, supporting a maximum of five tropical cyclone

sorties per day or two winter storm sorties per day.

3. IMPLEMENTATION: Implementation details are contained in “GENERAL PROVISIONS.”
4. GENERAL PROVISIONS:
 - a. AFRC agrees:
 - 1) Within the limits of military capability, to meet NOAA’s requirements for aerial weather reconnaissance in accordance with the NHOP and NWSOP.
 - 2) To provide at the Tropical Prediction Center/National Hurricane Center (TPC/NHC) the staff and equipment required to support the mission of the Chief, Aerial Reconnaissance Coordination, All Hurricanes (CARCAH). CARCAH provides 24-hour telecon/aircraft SATCOM operational interface between NOAA/TPC/NHC and AFRC/53WRS for NHOP and NWSOP taskings. CARCAH is a subunit of and reports directly to the 53WRS.
 - b. NOAA agrees to promptly notify AFRC/53WRS of the requirements for tropical cyclone or winter storm mission taskings in accordance with the NHOP and the NWSOP. Tropical cyclone missions will be tasked by the Director, TPC/NHC. Winter storm missions will be tasked by the Director, National Centers for Environmental Prediction.
 - c. AFRC recognizes the obligation to support winter storm operations and associated research projects as delineated by the DOD Appropriations Act and the NWSOP. Support to research projects will be contingent upon aircraft availability.
5. MOBILIZATION: In times of national emergency or war, some or all AFRC/53WRS reconnaissance resources may not be available to fulfill DOC/NOAA needs.
6. EFFECTIVE AND TERMINATION DATES: This memorandum will become effective on the date signed by the last approving official. The parties will review this memorandum of agreement at least once every three years to determine whether it should be revised, amended, or cancelled. Amendments or revisions to this agreement require the mutual consents of the parties.

7. COORDINATION:

The agency contacts for coordination of the activities under this MOU are:

AOC: CAPT Robert W. Maxson, NOAA, Aircraft Operations Center, DOC, MacDill AFB, Florida; phone: (813) 828-3310 ext. 3001; fax: (813) 828-3266 E-mail Bob.W.Maxson@NOAA.gov

Ms. Julie Robertson, (813) 828-3310 ext. 3010; fax: (813) 828-8923 E-mail
Julie.A.Robertson@NOAA.gov

AFRC:

HQ AFRC/DOOX
DSN 497-1161; Commercial (228)327-1161

403 WG/XPL
SSgt Clarence Hester Jr., Logistics Plans Manager
Keesler AFB, MS
DSN 597-3521; Commercial (228) 377-3521
Fax DSN 597-4624; Commercial (228) 377-3521
Email: Clarence.Hester@keesler.af.mil

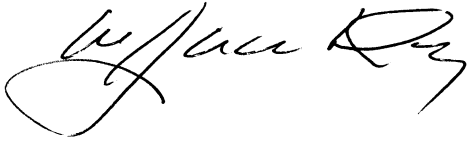
53 WRS
Lt Col Dennis L. Price, Director of Operation
817 H Street, Keesler AFB, MS 39534
DSN 597-8510; Commercial (228) 377-8510
Fax DSN 597-1923; Commercial (228) 337-1923
Email: Dennis.Price@keesler.af.mil

8. RESOLUTION OF DISAGREEMENTS

Nothing herein is intended to conflict with current DOC or the NOAA Aircraft Operations Center directives. If the terms of this agreement are inconsistent with existing directives of either of the agencies entering into this agreement, then those portions of this agreement which are determined to be inconsistent shall be invalid, but the remaining terms and conditions not affected by the inconsistency shall remain in full force and effect. At the first opportunity for review of the agreement, all necessary changes will be accomplished either by an amendment to this agreement or by entering into a new agreement, whichever is deemed expedient to the interest of both parties.

Should disagreement arise on the interpretation of the provisions of this agreement, or amendments and/or revisions thereto, that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each party and presented to the other party for consideration. If agreement on interpretation is not reached within thirty (30) days, the parties shall forward the written presentation of the disagreement to respective higher officials for appropriate resolution.

FOR THE UNITED STATES
AIR FORCE RESERVE COMMAND



Date: 2 Oct 2000

FOR THE NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

 Capt NOAA

Date: 10/12/2000

FEDERAL AVIATION ADMINISTRATION (FAA)
UNITED STATES AIR FORCE RESERVE (AFRES)
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION (NOAA)

LETTER OF AGREEMENT

EFFECTIVE:

SUBJECT: METEOROLOGICAL RECONNAISSANCE FLIGHTS

1. PURPOSE: Establishes procedures to be used by the 53rd Weather Reconnaissance Squadron (53 WRS), the NOAA Aircraft Operations Center (AOC), and the FAA during Winter storm missions in support of the NWSOP, and during hurricane/tropical cyclone missions in support of the NHOP.

2. CANCELLATION: This Letter of Agreement (LOA) remains in effect for 5 years from the date of the last signature hereon, unless expressly canceled by one of the participating agencies with 30 days' notification.

3. REFERENCES:

- a. National Hurricane Operations Plan (NHOP)
- b. National Winter Storm Operations Plan (NWSOP)

4. SCOPE: The responsibilities and procedures outlined herein are for use in the conduct of weather reconnaissance flights in support of the NHOP and the NWSOP within the airspace for which the FAA provides air traffic control (ATC) services.

5. RESPONSIBILITIES:

- a. Aircraft commanders are the sole responsible party for all dropsonde or other sensor releases.
- b. The aircraft commander is responsible for determining the content and duration of a broadcast concerning the release of a dropsonde or other sensor.
- c. The FAA will provide ATC services and separation from nonparticipating aircraft to 53 WRS and AOC aircraft operating in other than Class G airspace. It is the responsibility of the aircraft commander to remain clear of obstacles and nonparticipating aircraft when operating in Class G airspace.

d. The 53 WRS and AOC are responsible for ensuring that air traffic clearances and messages are relayed to/from the FAA in an accurate manner when those relays are initiated by 53 WRS or AOC and are routed through other than Aeronautical Radio (ARINC). Aircraft conducting weather reconnaissance flights in support of the NHOP and the NWSOP may communicate directly with the FAA via Satellite Communications (SATCOM) when practicable.

6. PROCEDURES:

a. The 53 WRS Current Operations (53 WRS/DOO) or the AOC Flight Operations Division, as appropriate, will contact the FAA Central Altitude Reservation Function (CARF) and submit an Altitude Reservation Approval Request (ALTRV APREQ) at least 12 hours prior to an NWSOP mission, and pass the information specified in the NWSOP within the paragraph entitled "Prior Coordination." Individual exceptions may be made to the 12 hour requirement on a case-by-case basis through coordination between the 53rd WRS, AOC and CARF.

b. CARF will process the ALTRV APREQ, accomplishing coordination with impacted facilities. The 53rd WRS and AOC shall coordinate with scheduling/using agencies to transit Special Use Airspace (restricted, warning, etc.) along their route of flight.

c. The 53 WRS/DOO and the AOC Flight Operations Division will contact the Air Traffic Control System Command Center (ATCSCC) as soon as possible prior to an NHOP mission and provide information specified in the NHOP in the paragraph entitled "Prior Coordination." The ATCSCC will then coordinate this information with all FAA facilities impacted.

d. The 53 WRS shall only use the call sign "TEAL," and AOC shall only use the call sign "NOAA," and will only be given priority handling when specifically requested.

e. Tracks flown in support of the NWSOP shall be defined in supplements to this LOA. Changes, additions and deletions to these tracks shall be coordinated between the 53 WRS, AOC (if and when AOC is tasked to fly NWSOP missions) and CARF. These tracks shall be reviewed annually, no later than June 1.

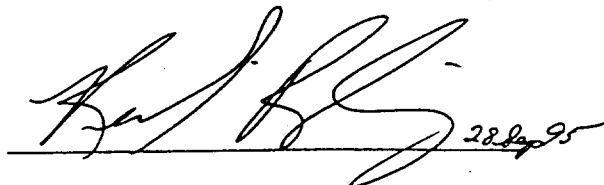
f. During NHOP and NWSOP missions, dropsonde instrument releases shall be coordinated with ATC by advising of a pending drop at least 10 minutes prior to drop when in direct radio contact with ATC. When contact with ATC is via ARINC, dropsonde release coordination shall be included with the position report prior to the point where the dropsonde will be released. EXAMPLE: "TEAL 63, SLATN at 1215, FL310, estimating FLANN at 1250, CHAMP next. Weather instrument release at FLANN."

g. During NHOP and NWSOP missions, commencing 5 minutes prior to release of dropsondes from FL 190 or higher, the aircraft commander will broadcast in the blind on 121.5 and 243.0 to advise any traffic in the area of the pending drop.

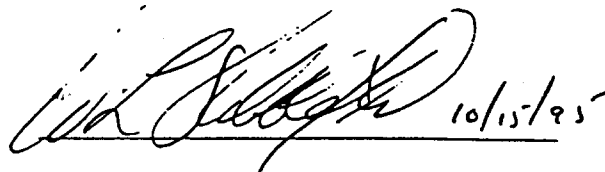
h. When 53 WRS and AOC flights are unable to contact ATC to request an en route clearance, a clearance request may be relayed through the Chief, Aerial Reconnaissance

Coordination, All Hurricanes (CARCAH). This relay may only be used to preclude an emergency or safety-related situation.

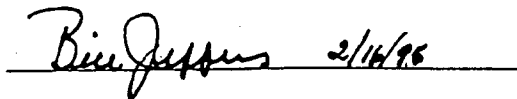
i. ATC may request that CARCAH relay information to/from a mission aircraft when other methods of communications are not possible.

A handwritten signature in black ink, appearing to be "Ken J. [unclear]", written over a horizontal line. To the right of the signature is the date "28 Sep 95".

United States Air Force Reserve
Director of Operations

A handwritten signature in black ink, appearing to be "William [unclear]", written over a horizontal line. To the right of the signature is the date "10/15/95".

National Oceanic & Atmospheric Administration
Director, NOAA Corps Operations

A handwritten signature in black ink, appearing to be "Bill J. [unclear]", written over a horizontal line. To the right of the signature is the date "2/16/96".

Federal Aviation Administration
Director of Air Traffic

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 403d AIRLIFT WING (AFRES)
KEESLER AIR FORCE BASE MISSISSIPPI 39534-5000

LETTER OF AGREEMENT

1. PURPOSE: This Letter of Agreement (LOA) establishes procedures whereby 815th Weather Squadron (815WS) and/or National Oceanic and Atmospheric Administration (NOAA) aircraft can operate within the same general airspace while conducting weather reconnaissance or weather research in a real or suspected tropical disturbance.

2. DEFINITIONS (for purposes of this LOA):

a. WEATHER RECONNAISSANCE and WEATHER RESEARCH will be considered synonymous terms during missions for the purpose of entering airspace defined below as an AREA OF INTEREST.

b. PARTICIPATING AIRCRAFT - those aircraft which operate under the parameters established by the National Hurricane Operations Plan (NHOP). NOAA aircraft will use the callsign "NOAA" such as "NOAA 42" and 815WS aircraft will use the callsign "TEAL" such as "TEAL 14."

c. CONTROLLING AGENCY - Air Traffic Control (ATC) facility issuing clearances to participating aircraft.

d. CARCAH - Chief, Aerial Reconnaissance Coordination, All Hurricanes.

e. AREA OF INTEREST - An area defined by latitude and longitude coordinates as a center point to include all airspace within a 250 nautical mile radius around that point and extending from the surface to 24,000 feet (AGL). Center coordinates are published by CARCAH in the TROPICAL CYCLONE PLAN OF THE DAY (TCPOD), item "E".

f. ALTITUDE CONFLICT - A flight condition during which participating aircraft operate within an AREA OF INTEREST within 2,000 feet (vertical separation) of each other.

g. QUADRANT OF OPERATIONS - Geographic area within the AREA OF INTEREST defined as Northeast, Southeast, Southwest or Northwest from the center coordinates. One-fourth of the AREA OF INTEREST.

3. RESPONSIBILITIES AND PROCEDURES:

a. The 815WS and/or NOAA will be tasked to fly a particular mission by CARCAH, or if not tasked, will advise CARCAH of intent to operate within the AREA OF INTEREST. Such advice should be given CARCAH at least twelve (12) hours before intended take-off and in no case less than three (3) hours before intended takeoff. Such advice shall include number of aircraft scheduled to fly, callsigns, scheduled takeoff times, estimated arrival time in the AREA OF INTEREST, altitudes to be flown, and estimated departure time from the AREA.

b. CARCAH will determine if a potential ALTITUDE CONFLICT exists and will advise the 815 WS and NOAA Operations centers and any airborne PARTICIPATING AIRCRAFT of the altitudes to be flown. PARTICIPATING AIRCRAFT will comply with the provisions of paragraphs 3d and 3e of this LOA to insure safe altitude separation.

c. CARCAH will advise the 815WS and NOAA operations centers whenever more than one PARTICIPATING AIRCRAFT will be in the AREA OF INTEREST at one time. Respective operations centers will advise the affected air crews. If notification by CARCAH occurs less than one hour before takeoff, CARCAH will advise the affected crew(s) by any means available.


d. PARTICIPATING AIRCRAFT crews will comply with the NHOP Chapter 5, AIRCRAFT RECONNAISSANCE. When advised that another PARTICIPATING AIRCRAFT will be operating within the same AREA OF INTEREST, crews will follow procedures in paragraph 5.9.3, AIR-TO-AIR COMMUNICATIONS.

e. PARTICIPATING AIRCRAFT crews will set 29.92 (inches hg) in at least one pressure altimeter. When contact is made with other PARTICIPATING AIRCRAFT, crews will confirm other aircraft's pressure altitude and geographic position as well as planned QUADRANT OF OPERATIONS and true heading. Crews will not deviate from the briefed QUADRANT and will not fly within 2,000 feet (vertical) of other participants without the concurrence of other PARTICIPATING AIRCRAFT.

f. PARTICIPATING AIRCRAFT experiencing loss of all radio communications will follow standard "LOST COMM" procedures.

4. EFFECTIVE AND TERMINATION DATES: This LOA is effective at 2359 (ZULU) on the date signed by the last approving official and will remain in effect until terminated in writing by either party. Changes to this LOA must be agreed to in writing by both parties.

FOR THE 403d AIRLIFT WING


JOE L. CAMPBELL, Brig Gen, USAFR
Commander

Date 29 Jul 93

FOR THE NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION,
AIRCRAFT OPERATIONS CENTER


F.D. MORAN, RADM, NOAA
Director

Date 3 Aug 93

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Distribution List